



Linda S. Adams
Secretary for
Environmental Protection



Department of Toxic Substances Control

Maureen F. Gorsen, Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806



Arnold Schwarzenegger
Governor

December 19, 2008

Mr. Mohinder Sandhu
Permit Appeals Officer
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826-3200

RE: DTSC BOEING TEAM BRIEF REGARDING APPEALS OF CLASS 2 PERMIT
MODIFICATION DECISIONS FOR POSTCLOSURE PERMITS AT SANTA
SUSANA FIELD LABORATORY- BOEING -ROCKETDYNE AREAS I AND III
(EPA ID CAD 093365435) and NASA/BOEING AREA II (EPA ID CA
1800090010), SIMI VALLEY, CALIFORNIA

Dear Mr. Sandhu,

Enclosed please find the brief submitted on behalf of the Boeing Team concerning the
appeals of Class II Permit Modification Decisions for the Santa Susana Field Laboratory
in Simi Valley, California.

Thank you for your attention to this matter.

Very truly yours,

//original signed by//

Nancy J. Long
Senior Staff Counsel
Office of Legal Counsel

Enclosure

cc: Mr. Art Lenox
The Boeing Company
5800 Woolsey Canyon Road
Canoga Park, California 91304

Mr. Mohinder Sandhu
December 19, 2008
Page 2 of 2

Mr. Allen Elliott
NASA Environmental Engineering and Occupational Health Office
George Marshall Space Flight Center
Huntsville, Alabama 35812

Mr. Norman E. Riley, C.E.A.
Director's Office
Department of Toxic Substances Control
1001 I Street, 25th Floor
Sacramento, California 95814-2828

Mr. Thomas M. Seckington, CHg
Senior Engineering Geologist
Engineering and Geology Unit
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630-4732

Mr. James Pappas
Supervising Hazardous Substances Scientist
Brownfields and Environmental Restoration Program
8800 Cal Center Drive
Sacramento, California 95826-3200

1
2 STATE OF CALIFORNIA
3 ENVIRONMENTAL PROTECTION AGENCY DEPARTMENT OF TOXIC
4 SUBSTANCES CONTROL

5 In the Matter of:

6 The Boeing Company
7 Rocketdyne Propulsion and Power
8 Santa Susana Field Laboratory
9 Areas I and III
10 Simi Hills, California 93065
11 EPA ID. NO. CAD 093 365 435

12 And

13 National Aeronautics and Space
14 Administration (NASA) / The
15 Boeing Company
16 Santa Susana Field Laboratory, Area II
17 Simi Hills, California 93065
18 EPA ID. NO. CA1 800 090 010

Case No.: No. PAT-FY08/09-Q2

DTSC BOEING TEAM BRIEF RE
PETITION FOR REVIEW

California Code of Regulations
Title 22, section 66271.18

19
20
21
22
23
24
25
26
27
28
I. INTRODUCTION

This brief is submitted on behalf of the Department of Toxic Substances Control (DTSC) Boeing Team. On November 19, 2004, the Department of Toxic Substances Control's Southern California Permitting and Corrective Action Branch (SCPCAB) issued two Class 2 Permit Modifications for two Post-Closure Permits (PC-94/95-3-02, MOD SC3-111904-A and PC 94/95-3-03, MOD SC3-111904-B). These two post closure permits govern nine closed surface impoundments at the Santa Susana Field Laboratory facility (SSFL or Facility) under the Resource Conservation and Recovery Act (RCRA) requirements. The SSFS is located in Simi Hills, Ventura County, California. On or before December 22, 2004, DTSC received two petitions for review (appeals) of SCPCAB's permit modification decisions. One petition was filed jointly by The Boeing Company Rocketdyne Propulsion and Power and National Aeronautics

1 and Space Administration (NASA) (hereafter Petitioner Boeing), and one from Philip
2 Chandler (hereafter Chandler).

3 Petitioner Boeing and Petitioner Chandler appealed conditions in the final
4 modified permits on several grounds, including the ground that in issuing the final
5 permit modification decisions, DTSC made numerous revisions to the language of the
6 two draft Class 2 Permit Modifications.

7 On October 19, 2006, representatives from DTSC, Boeing and NASA met to
8 discuss issues associated with the groundwater monitoring requirements for the
9 Facility. During that meeting and subsequent conference calls, agreement was
10 reached on the issues raised by Boeing and NASA in this appeal. Agreement was
11 reached on a groundwater monitoring protocol including, but not limited to, the list of
12 monitoring wells associated with each RCRA unit, the list of chemicals to be analyzed
13 for each RCRA unit and the sample frequency of the groundwater monitoring. These
14 agreements will be incorporated into a revised water quality sampling and analyses
15 plan that will be included into a future post-closure permit modification or renewal.
16 Furthermore, these changes will be public noticed and public input will be considered.

17 On November 4, 2008, DTSC granted Petitioner Boeing's petition for review for
18 Comments II-A through II-G, and III-A through III-D and Chandler's comments 2a, 5a,
19 6a, and 6b based on the fact the SCPCAB made substantial changes to the draft
20 permit after the close of the public comment period.

21 **II. ARGUMENTS**

22 The following are the Boeing Team's arguments concerning Boeing Appeal
23 Comments II-A through II-G, III-A through III-D and Chandler Comments 2a, 5a, 6a,
24 and 6b.

1 **Boeing Comment II-A**

2 **The Permit Imposes Excessive Constituents of Concern Analysis That**
3 **Does Not Adequately Consider Historical Data**

4 The permit modification significantly increases the monitoring frequency
5 required for Constituents of Concern over that proposed by Boeing. *Post-*
6 *Closure Permits, Table 4 and Table 7.* With regard to the number of
7 constituents, the modifications require Boeing and NASA to analyze for the
8 complete list of Constituents of Concern (COCs) as the minimum analytical
9 suite for analyses. Given the history of the site and the data developed to date,
10 there appears to be no justification for imposing this requirement. The
11 comprehensive data that have been provided to DTSC document the historical
12 record of sampling that has been conducted pursuant to the Post-Closure
13 Permits, the site-wide monitoring program, and other programs at the facility.
14 These data demonstrate that certain COCs have not been detected in
15 groundwater in the vicinity of individual impoundments. The data should offer a
16 baseline for determining an appropriate analytical suite for the monitoring
17 program. DTSC's inclusion of a blanket requirement for all COCs on quarterly
18 frequency does not consider the comprehensive, historical water quality
19 analyses.

20 Based on the available data, Boeing believes that the complete Constituents of
21 Concern analyses should be required only once initially to determine an
22 appropriate analytical suite, "Monitoring Parameters." Then, in order to ensure
23 that the analytical suite continues to be appropriate, the complete Constituents
24 of Concern analyses should be repeated on a five-frequency.

25 **DTSC Response to Boeing Comment II-A**

26 After review of the existing permit and Waste Quality Sampling Analysis Plan
27 (WQSAP), DTSC's Geological Services Unit (GSU) staff determined that the
28 WQSAP, including the list of monitoring parameters and COCs, were not in
compliance with the requirements of California Code of Regulations, title 22,
Article 6. Furthermore, DTSC determined that the procedures used to purge
and sample the wells were not consistent at different locations and may not
yield samples representative of the groundwater quality. It is not clear what
results the new purge and sampling protocols will yield. Therefore, the
comprehensive data referred to by Boeing may not be an appropriate baseline.
The one-year of quarterly sampling required in the proposed permit modification
will assist in evaluating, for comparison purposes, the historical data set and/or
to establish a new baseline. The sampling frequency after the first year may be
reduced to semi-annual sampling.

1 **Boeing Comment II-B**

2 **Requiring Quarterly Monitoring Disregards Historical Sampling and Water**
3 **Quality Trends**

4 The specified quarterly sampling frequency for all COCs during the first year of
5 monitoring also is inappropriate, as the modification seemingly assumes that
6 this is a new project. *Post-Closure Permits, Section H.2 and Table 7.* As
7 noted above, the comprehensive data that have been provided document the
8 historical record of sampling that has been conducted pursuant to the Post-
9 Closure Permits, the site-wide monitoring program, and other programs at the
10 facility. These data include thousands of samples taken at regular intervals from
11 wells over many years. Boeing proposed semi-annual groundwater sampling
12 because the need for a quarterly monitoring frequency is not justified by the
13 observed stability in groundwater quality, as documented by the comprehensive
14 historical data provided to DTSC (e.g. quarterly and annual groundwater
15 monitoring reports). DTSC has the authority in 22 CCR 66264.97(e)(12) to
16 allow semi-annual sampling.

17 **DTSC Response to Boeing Comment II-B**

18 DTSC determined that the procedures used to purge and sample the wells were
19 not consistent at different locations and may not yield samples representative of
20 the groundwater quality. It is not clear what results the new purge and sampling
21 protocols will yield. Therefore, the comprehensive data referred to by Boeing
22 may not be an appropriate baseline. The one-year of quarterly sampling
23 required in the permit modification will assist in evaluating, for comparison
24 purposes, the historical data set and/or to establish a new baseline.

25 **Boeing Comment II-C**

26 **The Monitoring Network Includes Existing Wells Unrelated to the**
27 **Regulated Units**

28 The permit modification includes approximately 58 additional groundwater
monitoring wells that have been installed and monitored by Boeing and NASA
for site-wide or other groundwater investigations unrelated to the Regulated
Units in the Post-Closure Permits groundwater monitoring program. *Post-
Closure Permits, Table 7.* The Agency has added "Evaluation Monitoring
Wells" to the required monitoring for specific regulated units without any
hydrogeologic basis for their inclusion. A specific example of this is the
inclusion of wells RD-49A, RD-49B, and RD-49C as wells in the affected media
associated with the (Alpha Bravo Skim Pond) ABSP impoundment. These
wells are nearly 1000 feet from the impoundment and may have been impacted
by inadvertent releases from facilities and operations unrelated to the ABSP
impoundment that currently are being monitored through the RCRA Facilities

1 Investigation program. Neither the DTSC Letter of Determination nor other
2 comments on the proposed modification offer a technical or regulatory basis for
3 including these wells.

4 **DTSC Response to Boeing Comment II-C**

5 The additional groundwater monitoring wells were selected to meet all the
6 necessary requirements of California Code of Regulations, title 22, Article 6 and
7 to best define the extent of the groundwater contaminant plumes associated
8 with each unit.

9 The comment refers specifically to wells RD-49A, B, and C as an example of
10 wells not associated with the regulated unit. GSU has determined that these
11 wells were affected by the operations at the ABSP. Boeing can make a
12 demonstration that the releases from the ABSP have not affected the
13 groundwater in the vicinity of the RD-49 well cluster for DTSC review. If Boeing
14 can make the demonstration that the contaminants in the groundwater are not
15 from ABSP, then the wells can be removed.

16 **Boeing Comment II-D**

17 **The Monitoring Network Inappropriately Includes Wells Owned by Parties 18 Other Than NASA or Boeing**

19 The permit modification includes several monitoring wells that are not owned or
20 controlled by NASA or Boeing (e.g., OS-26). "Hazardous Waste Facility Post
21 Closure Permit Rocketdyne, Santa Susana Field Laboratory, Areas I and III"
22 (PC-94/95-3-02). Table 7. The permit should include only Boeing or NASA
23 owned wells.

24 **DTSC Response to Boeing Comment II-D**

25 DTSC concurs that the permit should include only Boeing or NASA-owned
26 wells. DTSC will assess the groundwater monitoring well network and require
27 alternate wells as necessary.

28 **Boeing Comment II-E**

The Sampling and Analysis Requirements Include Constituents Not Associated with the Impoundments or Otherwise Inappropriate

(1) **Perchlorate**. Perchlorate was not a chemical identified to have been used
at any of the nine closed surface impoundments. Supporting documentation
has been provided previously to the DTSC indicating that perchlorate impacts at
SSFL are not associated with the impoundments. *Post-Closure Permit, Table 4.*

1 **DTSC Response to Boeing Comment II-E (1)**

2 Perchlorate was used at the test stand in the igniters. Perchlorate should be
3 considered a COC for the APTF surface impoundments, the Delta
4 impoundment, and the Alfa-Bravo impoundment.

5 (2) **Phthalates**. The phthalates are known common laboratory contaminants
6 and were not known to be used at the closed surface impoundments. *Post-
7 Closure Permits, Table 4.*

7 **DTSC Response to Boeing Comment II-E (2)**

8 Phthalates have been detected in the groundwater samples collected at the
9 regulated. Although phthalates can be a common laboratory contaminant,
10 QA/QC checks did not invalidate the positive results. Phthalates should remain
11 as a COC.

12 (3) **Sulfuric Acid**. Sulfuric acid per se cannot be determined in water. Sulfate
13 and pH are already being analyzed for. *Post- Closure Permits, Table 4.*

13 **DTSC Response to Boeing Comment II-E (3)**

14 DTSC concurs.

15 (4) **Napthene/Naphtene**. We assume DTSC means to refer to
16 Napthene/Naphtene and not Naphthalene. Naphtenes identified in relation to
17 chemical use at the impoundments are a generic group of hydrocarbons
18 characterized by saturated carbon atoms in a ring structure (also called
19 cycloparaffin or cycloalkane). Naphthalene is a poly-aromatic hydrocarbon
20 which can be determine using EPA method 8260B (chemical formula C₁₀ H₈).
21 *Post-Closure Permits, Table 4.*

21 **DTSC Response to Boeing Comment II-E (4)**

22 DTSC concurs. Analyses for TPH (in Monitoring Parameters), and Fuel
23 Hydrocarbons and BTEX (in COCs) should be included where appropriate to
24 serve as a surrogate for "napthene"

25 (5) **Hydrazine**. Hydrazine, Monomethyl Hydrazine, and UDMH are unstable
26 and have short half-lives in the environment and are no longer utilized at SSFL.
27 Boeing has previously sampled and analyzed groundwater in the vicinity of the
28 impoundments for breakdown or daughter products (e.g, formaldehyde and n-
nitrosodimethylamine). However, the DTSC requirement for hydrazine analysis
is premature and inappropriate at this time since their proposed new method
requires additional evaluation to determine their accuracy and availability of
reliable commercial laboratories to perform the proposed analysis.

1 Furthermore, the Department of Health Services has not certified analytical
2 methodologies and the applicability of the test methods proposed by DTSC.
3 *Post-Closure Permits, Table 4.*

4 **DTSC Response to Boeing Comment II-E (5)**

5 EPA Method 8315M is an appropriate and accepted testing method for
6 hydrazine and should be included in a revised water quality sampling and
7 analysis plan.

8 (6) **Sodium Azide**. Sodium Azide per se cannot be determined in water.
9 Sodium is specified for analysis as a background general water quality
10 parameter. The Department of Health Services has not certified analytical
11 methodologies for azide and the applicability of the azide test methods
12 proposed by OTSC would require additional evaluation as to their accuracy and
13 the availability of commercial laboratories to perform the proposed test
14 methods. *"Hazardous Waste Facility Post-Closure Permit Rocketdyne, Santa
15 Susana Field Laboratory, Areas I and III" (PC-94/95-3-02), Table 4.*

16 **DTSC Response to Boeing Comment II-E (6)**

17 DTSC concurs.

18 **Boeing Comment II-F**

19 **The Modification Imposes Improper Analytical Methods**

20 There are two instances in which DTSC imposes improper analytical methods:

21 (1) 1,3-Dinitrobenzene using 8260B. SW846 does not list 1,3-dinitrobenzene
22 as an approved analyte by method 8260B. *Post-Closure Permits, Table 4.*

23 **DTSC Response to Boeing Comment II-F (1)**

24 1,3-Dinitrobenzene should be analyzed using EPA Method 8270C.

25 (2) Hydrazine, MMH, UDMH. California Department of Health Services has not
26 identified certified analytical methods for Hydrazine, Monomethylhydrazine, and
27 Unsymmetrical Dimethylhydrazine (UDMH). Technical methods for analyzing
28 these constituents are under study. *Post-Closure Permits, Table 4.*

29 **DTSC Response to Boeing Comment II-F (2)**

30 Hydrazine, MMH, and UDMH can be tested using EPA Method 8315M and
31 should be incorporated into the water quality sampling and analysis plan.

32 **Boeing Comment II-G**

1
2 **The Modification Citation for Concentration Limits is Incorrect**

3 The reference to 22 CCR 66264.97(3)(11)(B) appears to be more appropriately
4 22 CCR 66264.97(e)(11)(B). *Post-Closure Permits, Table 4.*

5 **DTSC Response to Boeing Comment II-G**

6 DTSC concurs.

7 **Boeing Comments III-A, III-B, and III-C**

8 **The Modification Contains Several Factual Errors or Omissions**

9
10 **Comment III-A**

11 DTSC has rejected well HAR-24 as a Background Well at APTF. Boeing
12 provided supporting documentation indicating that HAR-24 is located
13 hydraulically upgradient of the APTF impoundments. In rejecting HAR-24 as a
14 background well, DTSC provides no supporting documentation indicating that
15 the impacts at HAR-24 are the results of releases from the APTF
16 impoundments rather than other sources. *"Hazardous Waste Facility Post-
17 Closure Permit Rocketdyne, Santa Susana Field Laboratory, Areas I and III"*
18 *(PC-94/95-3-02) Table 2.*

16 **DTSC Response to Boeing Comment III-A**

17 DTSC rejected HAR-24 as a background well for the APTF surface
18 impoundments due to its close proximity to the impoundment and the
19 occurrence of radial groundwater flow from the impoundment would result in the
20 well being impacted by the operation of the impoundment and not
21 representative of background groundwater condition.

21 **Comment III-B**

22 DTSC also rejects well HAR-11 as a Background Well at ABSP. As with HAR-
23 24, Boeing has provided supporting documentation indicating that HAR-11 is
24 located hydraulically upgradient of the ABSP impoundment. Again, DTSC
25 provides no supporting documentation indicating that the impacts at HAR-11
26 are the result of releases from the ABSP impoundment rather than other
27 sources. *"Hazardous Waste Facility Post-Closure Permit NASA, Santa Susana
28 Field Laboratory, Area II" (PC-94/95-3-03) Table 2.*

28 **DTSC Response to Boeing Comment III-B**

1
2 DTSC rejected HAR-11 as a background well for the ABSP surface
3 impoundments due to its close proximity to the impoundment and the
4 occurrence of radial groundwater flow from the impoundment would result in the
well being impacted by the operation of the impoundment and not
representative of background groundwater condition.

5 **Comment III-C**

6 ES-33 is misidentified as an STL-IV Evaluation Monitoring Program Well.
7 Boeing proposed HAR-33 as an Evaluation Monitoring Well for STL-IV-I.
8 *"Hazardous Waste Facility Post-Closure Permit Rocketdyne. Santa Susana
Field Laboratory, Areas I and III" (PC-94/95-3-02) Table 6 and Table 7.*

9
10 **DTSC Response to Boeing Comment III-C**

11 Acknowledged.

12 **Comment III-D**

13 **The Modification Contains Several Factual Error or Omissions**

14 References to SPA-1 and SPA-2 are transposed. The SPA-1 impoundment is
15 located approximately 400 feet west of the SPA-2 impoundment. *"Hazardous
16 Waste Facility Post- Closure Permit NASA, Santa Susana Field Laboratory,
Area II" (PC-94/05-3-03) Table 1, Table 2, Table 5, Table 6, Table 7 and
17 applicable text associated with the Tables.*

18 **DTSC Response to Boeing Comment III-D**

19 Acknowledged.

20 **Chandler Comment 2**

21 The DTSC has determined that Petitioner Chandler's Comment 2 below has
22 two issues. In order to clarify the analysis of this comment, it has been edited
23 and separated into two subparts to form Chandler Comment 2a and Chandler
24 2b.

25 **Inappropriate and Deceptive DTSC Policy of Changes to the Groundwater
26 Sampling Frequency for Point of Compliance, Background, Detection,
Evaluation, and Corrective Action Monitoring and Response Programs**

27
28 **Chandler Comment 2a**

1
2 Petitioner Chandler is appealing the minimum sampling frequency allowable for
3 all media covered under California Code of Regulation, title 22, chapter 14,
4 article 6 throughout the two post-closure permits. Petitioner Chandler provides
5 examples as follows:

6 p.3, 2 – [Point of Compliance] (06)
7 “...may be changed to semi-annual...”

8 p.4, 4 – [Background] (11) – Background wells shall then be tested for Table 3
9 and Table parameters annually.”

10 p.8, 1 – (30) [Appendix IX] “...on the frequency and...listed in Table 2.”

11 p. 12, 2 – (34) [Detection Monitoring] “...may be reduced to semi-annual...”

12 p.13, 4 – (37) [Detection Monitoring] “...may be sampled semi-
13 annually...annually...”

14 p. 15, 4 – (41) [Evaluation Monitoring] “...may be sampled semi-annually...”

15 p. 16, 5 – (43) [Evaluation Monitoring] “...semi-annual basis...”

16 The regulations are clearly being abused and misinterpreted in a fashion contradictory
17 to the intent of Health and Safety Code, in that DTSC interprets these regulations as
18 allowing the selection of any groundwater monitoring frequency it so chooses to
19 require in operating and post-closure permits and corrective action. The mechanism
20 of a variance exists in the regulations and states if DTSC has a reasonable basis for
21 reducing the groundwater monitoring frequencies. California Code of Regulations, title
22 22 section 66264.97(e)(12) (states that B) (1) either four samples be obtained at least
23 semi-annually from each monitoring point or (B) (2) that not less than one sample
24 quarterly be obtained from each monitoring point. This applies to each medium. The
25 Department shall require more frequent samples as necessary. With the ground
26 waste medium, such increases in frequency shall be based on rate of groundwater
27 flow, etc. DTSC has twisted this language to carve out a special exemption for ground
28 water opposed to other media where somehow groundwater sampling can become
less frequent. This is inappropriate and contrary to the meaning and intent of the
regulations. If DTSC doesn't like a regulation, it should engage in rulemaking not
circumvention.

I appeal each and every instance where the groundwater sampling frequency has
been arbitrarily reduced.

DTSC Response to Chandler Comment 2A

1 California Code of Regulations, title 22, section 66264.97, subdivision
2 (e)(12)(B)(1) relating to semi-annual sampling for surface water, soil-pore liquid
3 monitoring and groundwater monitoring is ambiguous and susceptible to
4 different meanings. DTSC has the discretion to interpret the regulation to
5 require less than semi-annual groundwater sampling frequency when it has
6 determined there is a technical and scientific basis for doing so. In this case,
7 DTSC has made a determination that, under certain circumstances, less than
8 semi-annual sampling may be appropriate.

9 **DTSC is requesting Boeing and NASA submit . . .The proposed permit
10 modifications will be subject to public review and comment.**

11 **Chandler Comment 5a**

12 p.8. 8 – (29) – DTSC mistakes what the regulations mean by "affected medium".
13 In the second of two paragraphs, DTSC states that "Appendix IX sampling is
14 not required for monitoring points outside of the affected medium until and/or
15 unless releases from a regulated unit reach or is suspected to have reached the
16 monitoring point." The regulations say nothing like this. Medium refers to either
17 groundwater, surface water, or soil-pore liquid. Therefore affected medium
18 means if ground water is contaminated. The medium in that instance is all
19 ground water not just ground water where monitoring points have exhibited
20 contamination. DTSC is attempting to artificially resist the California Code of
21 Regulations, title 22, (section 66264.99(e)(6) which states that "the owner or
22 operator shall analyze samples from all monitoring points in the affected
23 medium." This means all wells that are called out as monitoring points not just
24 the ones that are dirty. I petition that DTSC remove the last sentence from the
25 paragraph here, and go through the rest of the Appendix IX conditions and
26 properly apply the regulations.

27 **DTSC Response to Chandler Comment 5a**

28 Petitioner incorrectly applies the term "affected medium." The term "affected
medium" is defined as "any medium (e.g., groundwater, surface water or the
unsaturated zone) that has been affected by a release from a regulated unit."
(Cal. Code Regs., tit. 22, §66260.10.) As used in the following regulations, the
term necessarily applies to those portions of the medium affected by operation
of the RCRA unit. The term "affected medium" is used in Section 66264.98 -
Detection Monitoring Program as follows:

66264.98(k)(1) "For that regulated unit, immediately sample all monitoring
points in the affected medium (groundwater, surface water or the unsaturated
zone) and determine the concentration of all constituents of concern.

66264.98(k)(2) For that regulated unit, immediately sample all monitoring points
in the affected medium (groundwater, surface water or the unsaturated zone)

1 and determine whether constituents in the list of Appendix IX to chapter 14 are
2 present, and if so, in what concentration(s).

3 66264.98(k)(5)(A) an identification of the concentration of each constituent of
4 concern at each monitoring point as determined during the most recent
5 sampling events, and an identification of the concentration of each Appendix IX
6 constituent at each monitoring point for the regulated unit in the affected
7 medium (groundwater, surface water or the unsaturated zone);

8 In addition, California Code of Regulations, title 22, section 66264.99, pertaining
9 to the Evaluation Monitoring Program, provides: "the owner or operator shall
10 analyze samples from all monitoring points in the affected medium
11 (groundwater, surface water or the unsaturated zone) for all constituents
12 contained in Appendix IX to chapter 14 at least annually to determine whether
13 additional hazardous constituents are present and, if so, at what
14 concentration(s)."

15 The above-cited regulations provide the mechanism to further characterize a
16 release at the RCRA unit. They are designed to ensure that the release is
17 characterized and sampled for all known and potentially unknown chemicals.
18 Under these conditions, sampling monitoring points within the area known to be
19 impacted is straightforward and logical. However, sampling at monitoring points
20 that are outside of the area impacted by the operation of the RCRA unit (i.e.
21 non-impacted ground water), as asserted by the petitioner, would not provide
22 any useful data, be arbitrary, nonsensical and inconsistent with the regulatory
23 definitions. DTSC reasserts that the definition of "affected medium" is intended
24 to include only the areas impacted by the operations of the RCRA unit.

25 **Chandler Comment 6a**

26 P.11, 6 to 8 – (33) DTSC has removed the unfortunate impression in the
27 original permits that ground water is the only medium to which environmental
28 monitoring applies at this facility. It is nice to include surface water and soil-
pore liquid. However, DTSC cites only the vadose zone monitoring that deals
with soil-pore liquid. There is something wrong with the decision or DTSC to
apparently neglect other media such as soil-pore gas -- especially given the
constituents such as trichloroethylene. Specifically, if ground water has not
been impacted but is threatened by continuing waste discharge, it would be
prudent to have instituted Vadose monitoring to determine if contaminants in
the landfill are in fact migrating towards ground water. If so, actions should then
be taken to prevent discharge into ground water or the WDRs need to reflect the
amount of such discharge that will be allowable (a seeming conflict with the
anti-degradation policy). Vadose zone monitoring is the early warning system is
most preferable groundwater monitoring is in effect a backup.

Damning as well is the failure of DTSC to provide the soil-pore liquid and
surface water protection specifications, etc. required by the regulations for

1 these media. For example, DTSC fails to specify concentration limits for either
2 surface water or soil-pore liquid, as required by California Code of Regulations,
3 title 22, section 66264.94(b), which states in part, "...each concentration limit
and each statement shall be specified in the facility permit.

4 In addition to petitioning DTSC to include in the permit modification those
5 elements required by the regulations but missing from the original permit with
6 respect to the additional media---surface water and soil-pore liquid [see
7 California Code of Regulations, title 22, section 66264.94(b), 66264.92(a),
8 66264.91*b), 66264.93, 66262.95(a), 66264.98(d), (e), (f), (g), 66264.99(e)(2)
9 and (3), 66264.100(b), (c), (e)], the permit modification(s) is incomplete. I also
petition DTSC to sort out the issue of gas-phase monitoring since that medium
appears totally ignored for the vadose zone.

10 **Chandler Comment 6b**

11 DTSC has avoided pore liquid and pore gas monitoring in fractured bedrock.
12 DTSC continues to ignore that under Porter-Cologne, it has no right to allow
13 discharge or threat of discharge into ground water from its waste units.
14 Detection monitoring in ground water is not an acceptable substitute for vadose
15 zone monitoring which may lead to prevention or amelioration of discharge into
ground water. I petition that a pore liquid monitoring response program (MRP)
be included in the permit for the unsaturated fractured rock and that a pore gas
program be added in accordance with article 17.

16 **DTSC Response to Chandler Comment 6a and 6b**

17 DTSC disagrees with Chandler Comment 6a and 6b based on the following:

18 Petitioner indicates that the purpose of vadose zone monitoring is as an early
19 warning system to the potential impacts to groundwater monitoring from the
20 regulated unit. DTSC conceptually agrees with this comment; however, it should
21 be clear that each of the nine RCRA surface impoundments at the Facility is in
22 Evaluation Groundwater Monitoring, therefore impacts to groundwater have
already occurred and or are being monitored making the "early warning system"
argument irrelevant and vadose zone monitoring unnecessary.

23 Petitioner states "Damning as well is the failure of DTSC to provide the soil-pore
24 liquid and surface water protection specifications, etc. required by the regulations
25 for these media." Each of the nine of surface impoundments, with the exception of
26 the Delta Impoundment, was excavated to bedrock and capped with an engineered
27 soil or concrete cap. At the Delta impoundment, the saturated zone was
28 encountered before the depth of the bedrock could be reached. Therefore, there is
no vadose-zone soil-pore water to monitor and the engineered caps that are
present at each unit prevent any further impacts to surface water by diverting runoff
around the impoundments.

1 In regards to pore liquid and pore gas monitoring in fractured bedrock, DTSC is not
2 aware of any device that can effectively monitoring pore liquid or pore gas in the
3 geologic conditions present at the Facility. However, it should be noted that
4 characterization activities, including rock coring and pore liquid collection, are being
5 conducted at the site to provide spatial data (but not temporal data) on the
6 contaminant plumes at the Facility. Again, it should be noted that since ground
7 water has been impacted beneath each regulated unit, monitoring pore liquid and
8 pore gas to detect and prevent discharge of contaminants to groundwater is not
9 needed.

8 VI. SUMMARY AND CONCLUSION

9 For the reasons set forth above, the Boeing Team recommends that the Final
10 Decision in this matter conclude as follows:

11 Boeing Appeal Comments II-A; II-B; II-C; II-E (1), (2), & (5); II-F(1) & (2), III-A and III-B
12 be denied. Boeing Appeal Comments II-D, II-G, III-C & III-D be granted. Chandler
13 Appeal Comments 2a, 5a, & 6a & 6b be denied.
14

15
16
17 DATED: December 19, 2008

18 //original signed by//

19
20 _____
21 Nancy J. Long
22 Senior Staff Counsel
23 Department of Toxic Substances Control

24 ///

25 ///

26 ///

27 ///